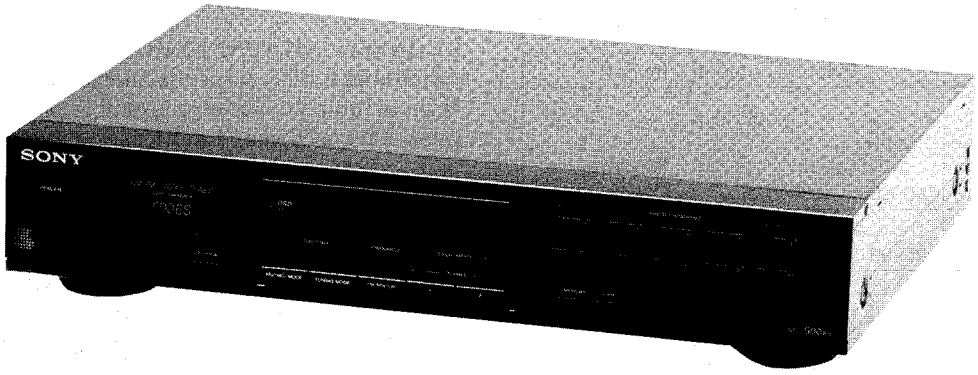
ST-S500ES

SERVICE MANUAL

AEP Model
UK Model



SPECIFICATIONS

FM tuner section

Tuning range 87.5 MHz - 108 MHz
Antenna terminals
75 ohms, unbalanced
Intermediate frequency
10.7 MHz

	at 40 kHz deviation
Sensitivity	at 46 dB quieting 17.3 dBf, 2μV (mono) 37.9 dBf, 22.5μV (stereo)
Usable sensitivity	10.3 dBf, 0.9μV (IHF)
Signal-to-noise ratio	82 dB (mono) 78 dB (stereo)
Harmonic distortion at 1 kHz	0.04% (mono) 0.06% (stereo)
IM distortion	0.04% (mono) 0.06% (stereo)
Selectivity	at 300 kHz 60 dB
	at 400 kHz 90 dB

Separation at 1 kHz
60 dB
Frequency response
15 Hz - 15 kHz $^{+0.2}_{-0.5}$ dB
Capture ratio 1.0 dB
AM suppression ratio
65 dB

Image response ratio
80 dB
IF response ratio more than 120 dB
Spurious response ratio
more than 120 dB
RF intermodulation
83 dB (800 kHz)
Subcarrier product ratio
more than 60 dB
Auto tuning threshold
30 dBf
Muting threshold
30 dBf
Output level/impedance
at 40 kHz deviation
400 mV, 2 kilohm

— Continued on next page —

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MICROFILM

FM STEREO/FM-AM TUNER

SONY®

AUD

MW/LW tuner section

		MW	LW
Tuning range		531 - 1602 kHz (9 kHz step)	153 - 344 kHz (1 kHz step)
Antenna		AM loop antenna	
		External antenna terminal	
Intermediate frequency		450 kHz	
Usable sensitivity	AM loop antenna	250μV/m (at 999 or 1,000 kHz)	650μV/m (at 230 kHz)
	External antenna	30μV (at 999 or 1,000 kHz)	200μV (at 230 kHz)
Signal-to-noise ratio		50 dB (50 mV/m)	
Harmonic distortion		0.3% (at 50 mV/m, 400 Hz)	
Selectivity		40 dB (9 kHz)	

General

System PLL quartz-locked digital synthesizer system
FM stereo, FM/AM super-heterodyne tuner

Power requirements
UK model:240V AC(or220V AC adjustable by authorized Sony personnel), 50 Hz
AEP model: 220 V AC (or 240 V AC adjustable by authrized Sony personnel), 50/60 Hz

Power consumption
AEP model: 13 watts
UK model: 14 watts

Dimensions Approx. 430 × 85 × 345 mm (w/h/d) (17 × 3⅜ × 13⅝ inches) including projecting parts and controls

Weight Approx. 4.3 kg (9 lb 5 oz)

Accessories supplied
Ribbon antenna (1)
Connecting cord (1)
AM loop antenna (1)
Antenna connector (1)

FEATURES

10-STATIONS PRESET MEMORY
A total of 10 FM/AM stations can be stored in the memory in any desired order. the large buttons and LED station indicators are designed for optimum ease of operation.

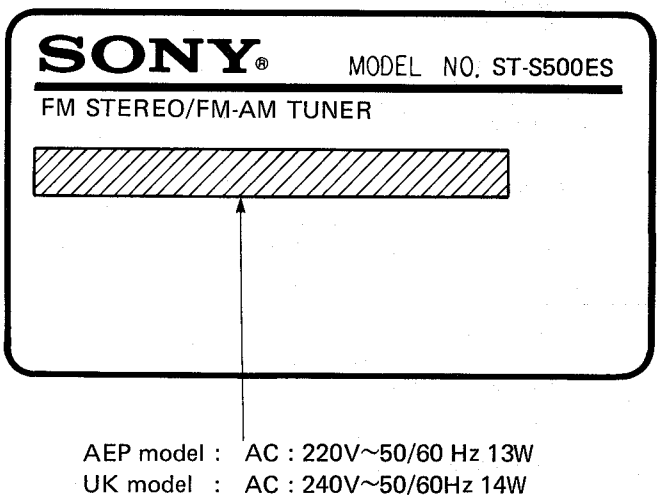
3 CONVENIENT TUNING MODES
Automatic tuning scans the band until a signal is received. **Manual tuning** is useful for example when searching for weak stations. **Sweep tuning** permits a quick check of the present broadcast contents of each receivable staion.

HIGH SEPARATION
The newly developed MPX IC employs a WODSD (Wave Optimized Digital Stereo Decorder) circuit for optimum performance. The need to remove beat products with a filter is eliminated, resulting in outstanding channel separation and superb frequency characteristics.

HIGH S/N RATIO
A high-speed PLL IC direct decoder ensures high signal-to-noise ratio. In this type of decoder, the comparator frequency is identical to the channel spacing frequency.

DSD CIRCUIT — The DSD logo on the front panel stands for Digital Stereo Decoder.

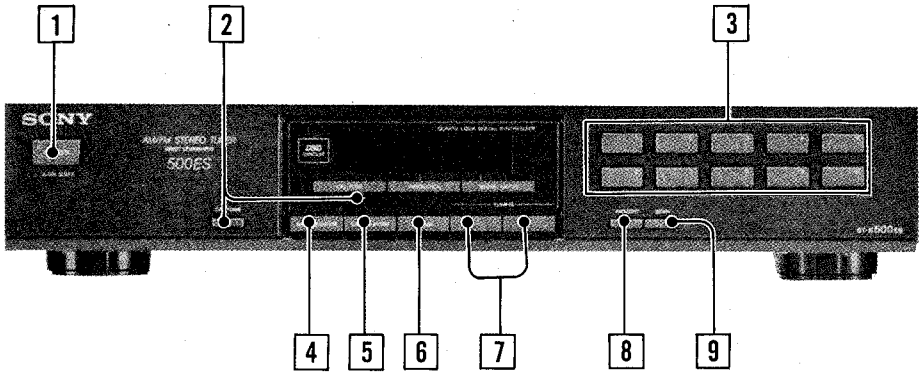
– MODEL IDENTIFICATION –
(Specification Label)



AEP model : AC : 220V~50/60 Hz 13W
UK model : AC : 240V~50/60Hz 14W

FUNCTION OF CONTROLS

Front panel



1 POWER switch

2 CAL TONE (calibrating tone) button and indicator
Press this button to obtain a 400 Hz, 50% modulated signal for adjusting the recording level on a cassette deck. The indicator lights when a 400 Hz calibrating tone signal is provided.
To deactivate the cal tone circuit, press the button again.

3 Station preset buttons and indicators
Press the appropriate button to call up a memorized station.
The indicator of the called up station lights.

4 MUTING/MODE button
Normally, set this button so that the MUTING indicator is lit (on).
This button activates as a muting switch and an FM mode selector.
Press this button. The MUTING indicator lights and the muting circuit is activated to eliminate interstation noise while tuning so that the FM station is received in stereo mode.
To tune in a very weak FM station, press this button again. The MUTING indicator goes out and the muting circuit is deactivated so that the FM station is received in monaural mode.
In this case, be sure to keep the sound level of the connected amplifier down to avoid speaker damage caused by interstation noise during tuning.

5 TUNING MODE button
Selects a tuning system-MANUAL, AUTO or SWEEP. The selected tuning system will be indicated in the display window.

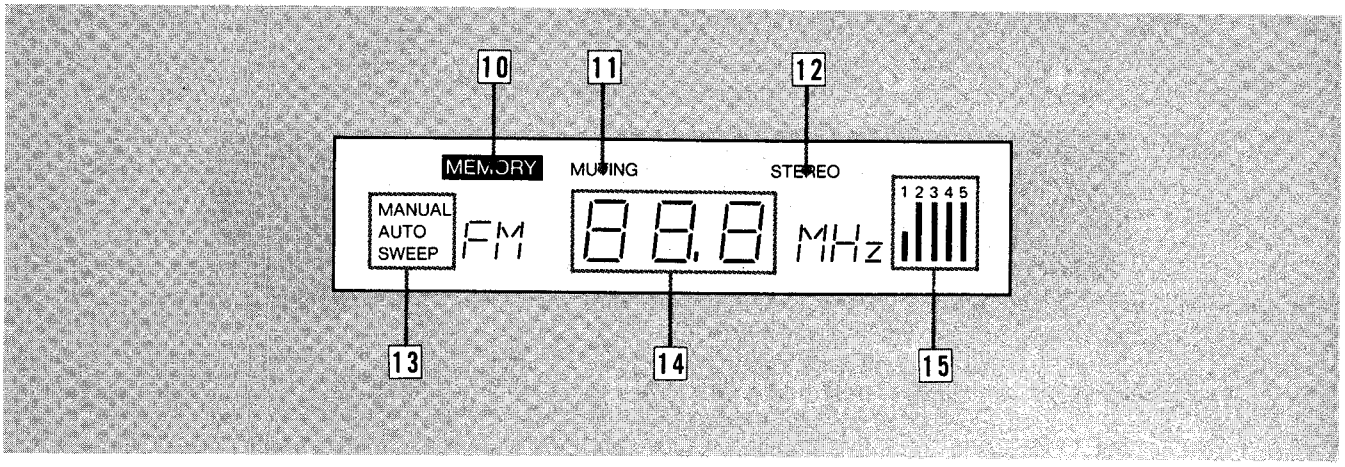
6 FM/MW/LW Band selector
Press the button to select the desired band.
The selected band is shown in the display window.

7 Tuning buttons
Press the – button to go to a lower frequency and the + button to go to a higher one.

8 MEMORY button
Press this button to memorize the tuned station by using the station memory button.
The MEMORY indicator illuminates for a few seconds.

9 SCAN button
Press this button to automatically scan the stations memorized on the station preset buttons.

Display window



10 MEMORY indicator
Lights for a few seconds when the MEMORY button is pressed.

11 MUTING indicator
Lights when the MUTING/MODE button is pressed.

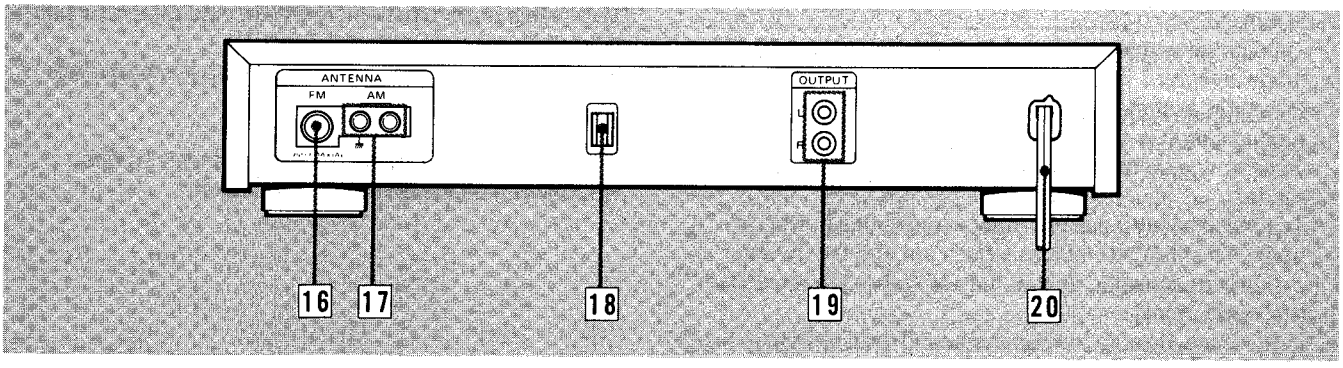
12 STEREO indicator
Lights when an FM stereo program of sufficient signal strength is tuned in with the MUTING/MODE button pressed. (This indicator does not light when the MUTING indicator is gone out.)

13 Tuning mode indicators
The tuning system selected by the TUNING MODE button is displayed.

14 Frequency display window
Displays frequencies being received.

15 SIGNAL indicator
Indicates the signal strength of the station being received.

Rear panel



16 FM antenna connector

17 AM (MW/LW) antenna terminals

18 AM loop antenna holder
Use this holder to install the supplied AM loop antenna on the rear panel.

19 OUTPUT terminals
Connect to the TUNER input jacks of amplifier.

20 AC power cord

SECTION 1
DISASSEMBLY

Note: Follow the disassmbly procedure in the numerical order given.

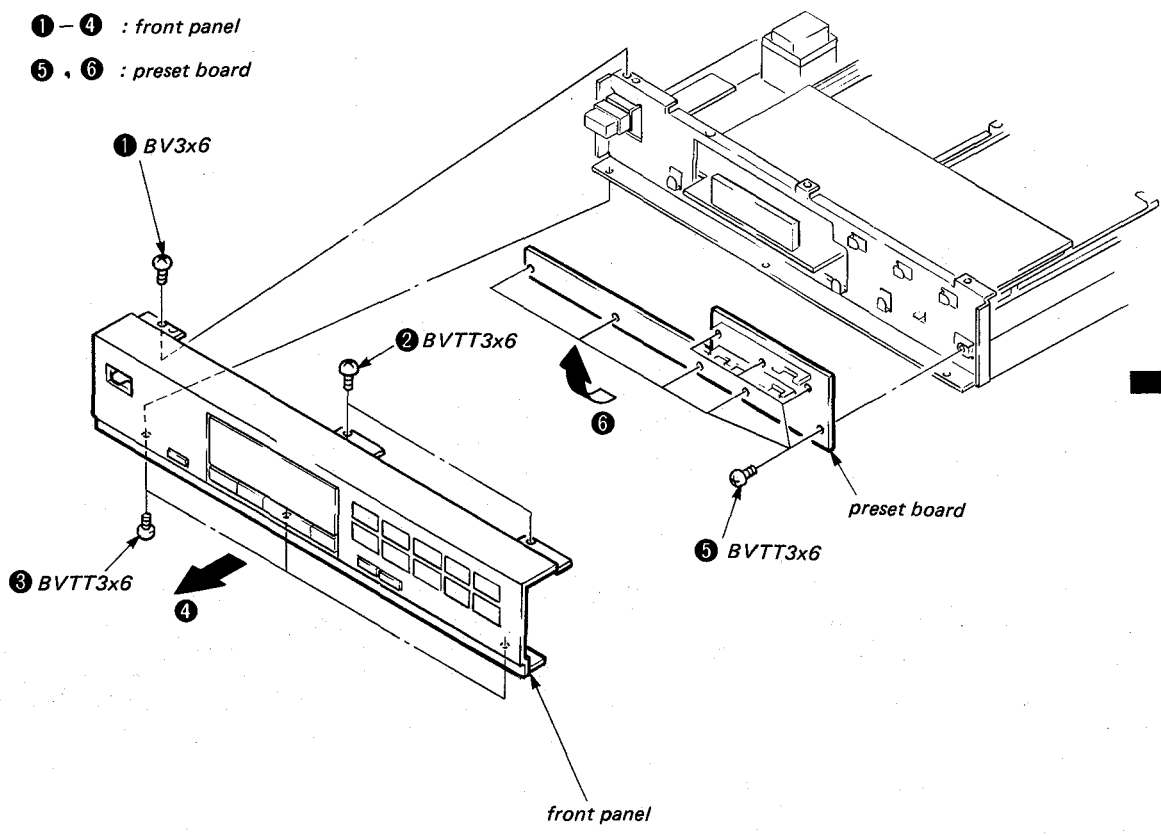
CASE REMOVAL

Remove case by taking out four screws.

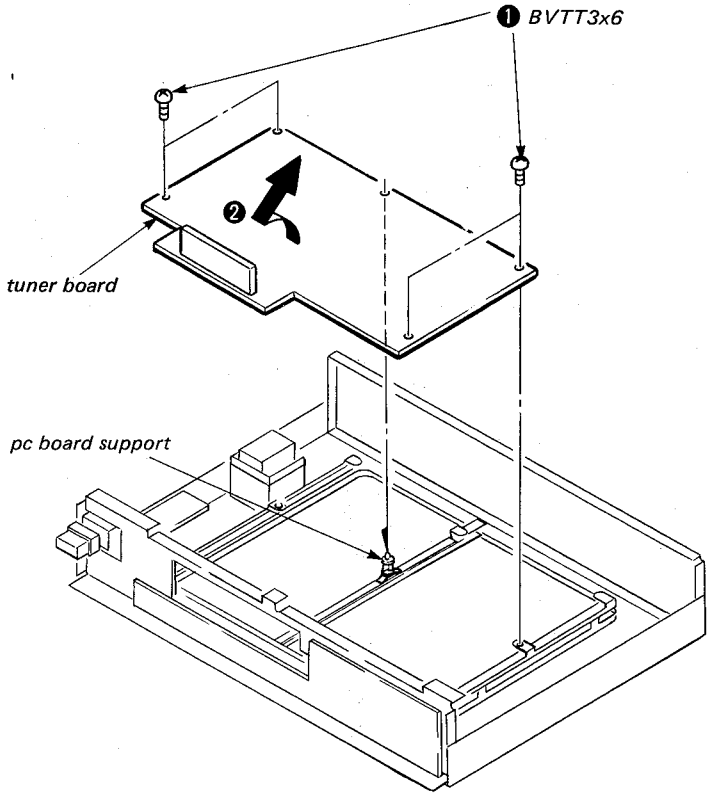
FRONT PANEL AND PRESET BOARD

❶–❹ : *front panel*

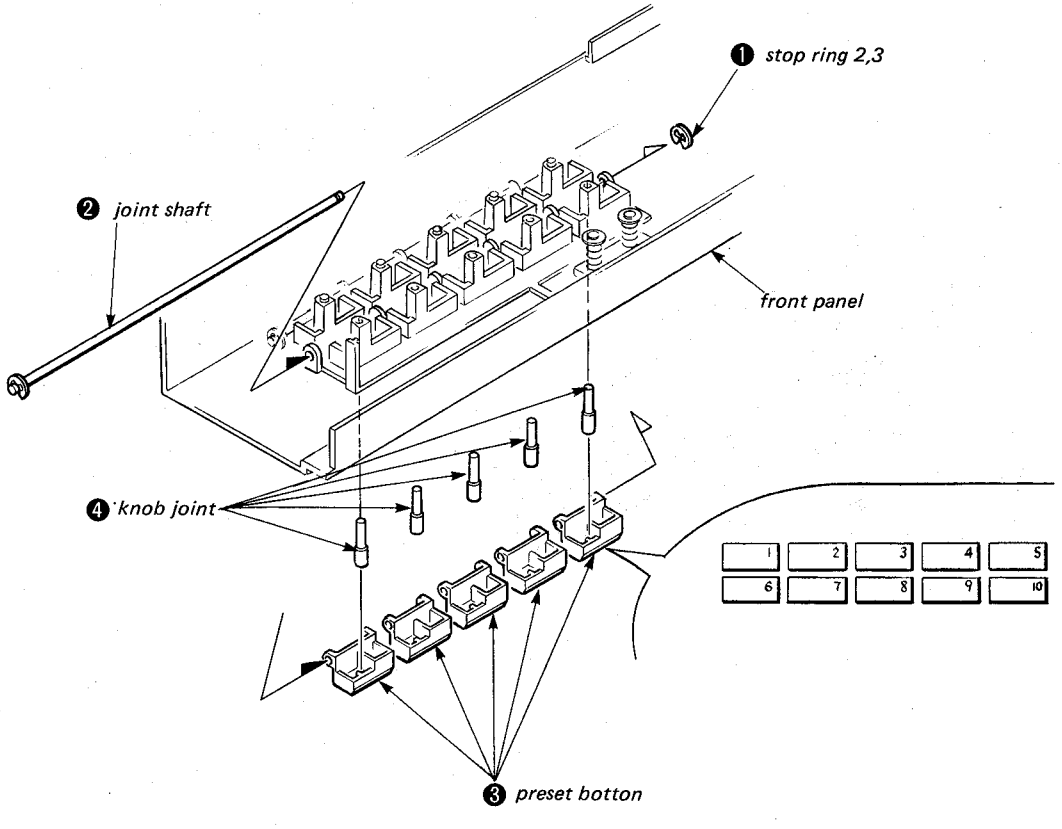
❺ , ❻ : *preset board*



TUNER BOARD

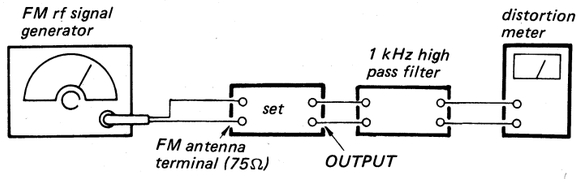


PRESET BUTTON

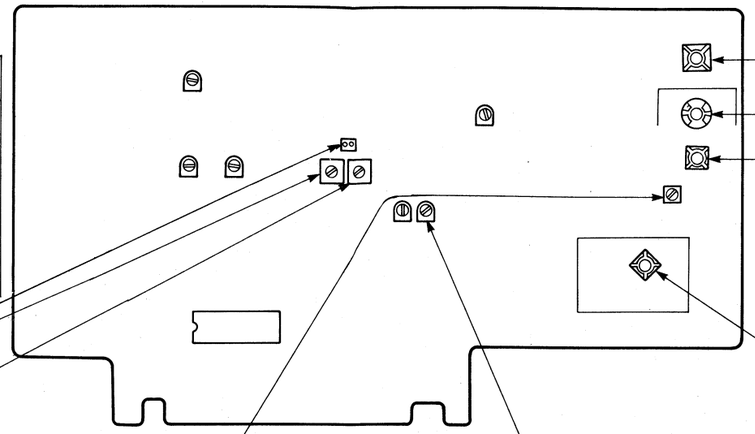


SECTION 2
ADJUSTMENTS

FM SECTION

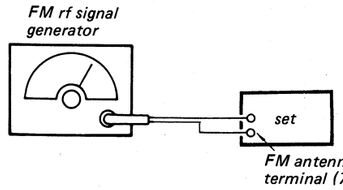


FM rf Stereo Signal	FM rf Monaural Signal
Carrier frequency: 98 MHz Modulation: Audio 1kHz 16.25 kHz deviation (40%) Subchannel 16.25 kHz deviation (40%) Pilot 19 kHz 7.5 kHz deviation (19%)	Carrier frequency: 98 MHz Modulation: 1 kHz, 40 kHz deviation (100%)

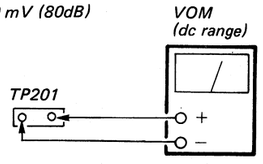


FM Discriminator Alignment

Setting:



Carrier frequency: *98 MHz*
Modulation: *1 kHz, 40 kHz deviation (100%)*
Output level: *10 mV (80dB)*



1. Tune the set to 98 MHz by pressing the TUNING (+, –) button.
2. Turn the core (primary side of IFT201 for 0 V reading on VOM.
3. Turn the core (secondary side of IFT202 for minimum distortion reading on the distortion meter.

Note: When replacing the ceramic filter, perform this alignment.
Repeat the secondary-side and primary-side alignments several times.

Stereo THD Adjustment

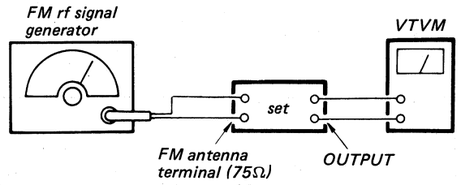
Setting:
FM rf stereo signal geneator: L-CH

1. Tune the set to 98 MHz by pressing the TUNING (+, –) buttons.
2. Adjust IFT101 for minimun distortion reading on the distortion meter.

FM Muting Level Adjustment

Setting: MUTING/MODE switch: ON

Procedure:

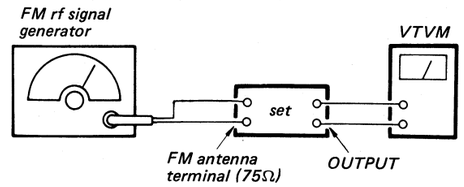


Carrier frequency: *98 MHz*
Modulation: *1 kHz, 40 kHz deviation (100%)*
Output level: *17.8 μV (25dB)*

1. Tune the set to 98 MHz by pressing the TUNING (+, –) buttons.
2. Adjust RT202 for 14.5μV (23dB) –22.4μV (27dB) reading on the VTVM.

FM TRACKING ADJUSTMENT

Setting:

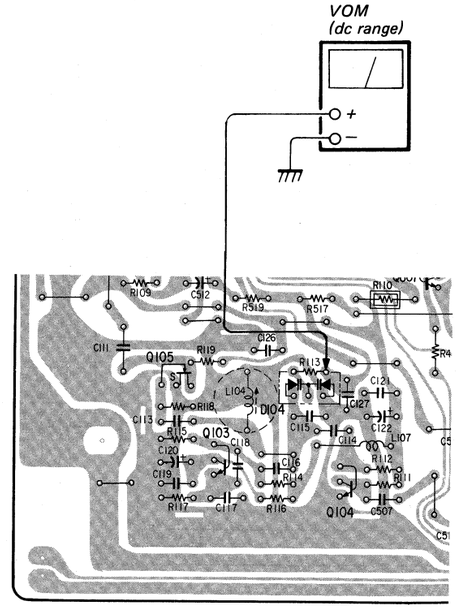


Carrier frequency: *98 MHz*
Modulation: *1 kHz, 40 kHz deviation (100%)*

1. Tune the set to 98 MHz by pressing the TUNING (+, –) button.
2. Adjust L101, 102, 103 for maximum reading on meter.

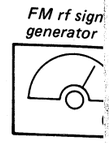
Control Voltage Adjustment

1. Tune the set to 108 MHz by pressing the TUNING (+, –) buttons.
2. Adjust L104 for 21 ± 0.2 V reading on the VTVM.
3. Tune the set to 98 MHz by pressing the TUNING buttons.
4. Check for 8.0 ± 1.0 V reading on VOM.



Pilot Cancel

Procedure:

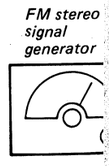


1. Tune the buttons. (Turn OF stereo sig
2. Adjust F VTVM. well balar

FM Stereo S

Setting: MU

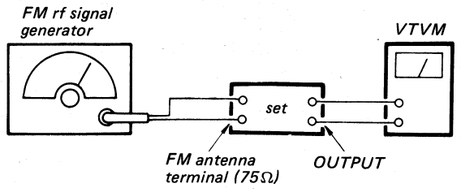
- **Procedur**



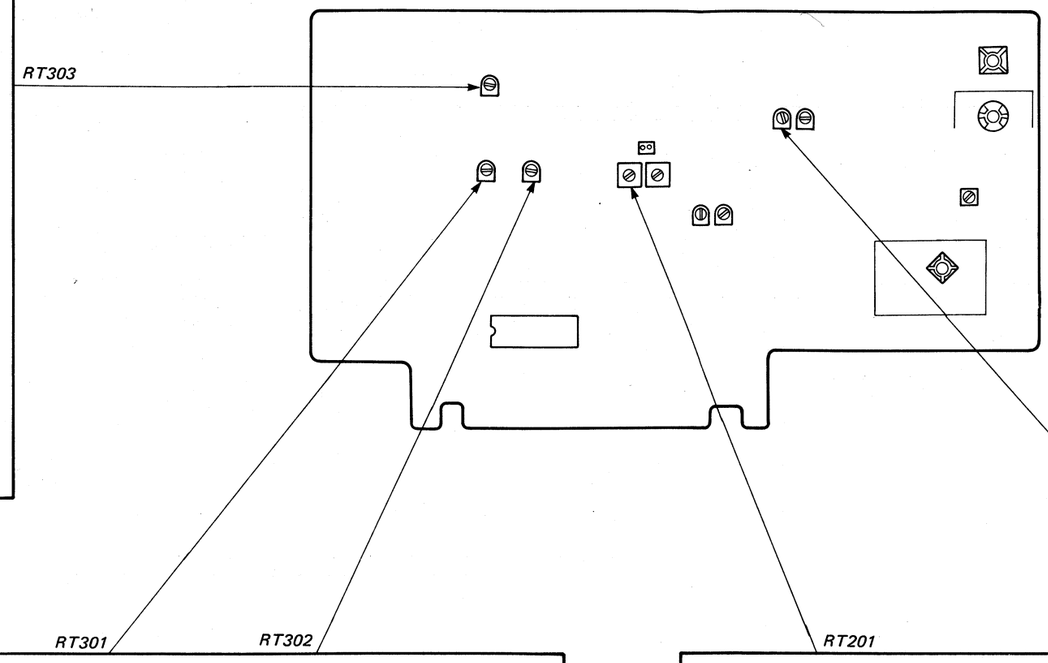
Carrier freq
Output leve
Modulation
Audio (
Pilot (19
Sub-chai

Pilot Cancell Adjustment

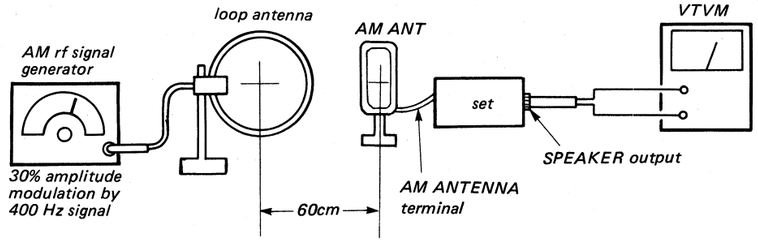
Procedure:



1. Tune the set to 98 MHz by pressing the TUNING buttons.
   (Turn OFF the audio modulation of the FM rf stereo signal generator.)
2. Adjust RT303 for minimum reading on the VTVM. Output level of both channels should be well balanced.



AM SECTION



AM Meter Level Adjustment

Setting:

Carrier frequency: *230 kHz (LW), 999 kHz (MW)*
Modulation: *400 Hz, 30% modulation*

Procedure:

1. Set the AM rf signal generator so that AM antenna input level becomes 74dB (5.0mV/m).
2. Switch to LW band.
3. Turn RT402 until the scale 5 on signal indicator lights up.
4. Press the button for MW band.
5. Comfirm that the scale 5 on signal indicator lights up.

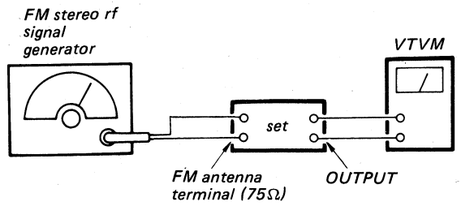
RT402

RT201

FM Stereo Separation Adjustment

Setting: MUTING/MODE switch: ON

- **Procedure:**



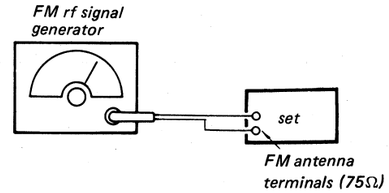
Carrier frequency: *98 MHz*
Output level: *10 mV (80 dB)*
Modulation:
Audio (1kHz): 16.25kHz deviation (40%)
Pilot (19 kHz): 7.5 kHz deviation (19%)
Sub-channel (1kHz): 16.25 kHz deviation (40%)

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT301 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT302 for minimum

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ
The separations of both channels should be equal.

FM Meter Level Adjustment

Procedure:



Carrier frequency: *98 MHz*
Modulation: *1 kHz, 75 kHz deviation (100%)*
Output level: *562 µV (55dB)*

1. Tune the set to 98 MHz by pressing the TUNING (+, –) buttons.
2. Turn RT201 until the scale 5 on signal indicator lights up.

Refer to page 18 for Note.

【TUNER BOARD】

TM901 ANTENNA

Q101 2SK241 FM RF AMP

D101 KV1320

D102 KV1320

D103 KV1320

Q102 2SC535 FM MIXING

STEREO THD

Q201,202 2SC2669 FM IF AMP

Q203,204 2SC2669 FM IF AMP

IC201 LA1235 FM IF AMP

FM TRACKING

G-AEP MODEL

Q104 2SC2995 BUFFER

D104 KV1320

Q103 2SC2995 LOCAL OSC

Q105 2SK161

IC401 LA1245 AM TUNER

Q200 2SK161

D201,401 1SS132

Q301 BA11A4M MUTING SWITCH

Q402 BA11L4M

Q404,405 BA11L4M

Q408 2SK161

IC401(1/2) RF AMP

MIXING

LOCAL OSC

IC401(1/2) IF AMP

DET METER DRIVE

Q401 BN11L4M

Q403 BA11L4M

Q406 2SC3622

Q407 BN11L4M

IC501 CX7925 PLL SYNTHESIZER

PHASE DET

PROGRAM DIVIDER

PRESCALER

LOCAL OSC

UP/DOWN COUNTER

PROGRAM SELECTER

Q501 2SC2458 DELAY

Q502 BA11A4M DELAY

Q503 BA11A4M DELAY

IC601 TC9303AN-010 SYSTEM CONTROL

Q532 2SC634 MW/LW PLL LPF

Q531 2SK30A-GR3 MW/LW PLL LPF

Q505 2SC634 FM PLL LPF

Q504 2SK30A-GR3 FM PLL LPF

FL601 FLUORESCENT TUBE

MEMORY MUTING STEREO DISTANT PGM

MANUAL AUTO SWEEP MW LW 188.8 MHz

IC602 LB1493 SIGNAL METER DRIVE

【PRESET BOARD】

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

A B C D E F G H I J

IC201 LA1235 FM IF AMP

IF AMP LIMITER | QUADRATURE DET | AFC/ NULL METER | IF OFF NULL METER SHORTING | DET | METER DRIVE | MUTING | AF AMP

IFT201 IFT202 FM DISCRIMINATOR

TP201 (NULL)

F.M METER LEVEL | F.M MUTING LEVEL | A.M METER LEVEL

Q301 BA1L4M MUTING SWITCH

Q608 2SC2458 AM B+ SWITCH

Q609 BN1L4M FM B+ SWITCH

Q607 2SC2458 FM/AM SWITCH

D617 ISS132 | D307 | D303 | D301-304 ISS132 | D302 | D304 | D301 | D308 | D307,308 ISS132 | D623 ISS132

Q302 BA1L4M CAL TONE SWITCH

IC301 CXA1064S MPX

VOL.REG. | MODE SELECT | CAL-TONE SELECT | OSC (CAL-TONE) | PILOT DET | AGC | PILOT CANCEL | RESET | FF | LOGIC | FF 38kHz | FF 19kHz∠90° | FF 19kHz∠0° | OSC 456kHz | SYMMETRICAL REACTANCE CIRCUIT | PHASE DET | PILOT DET | VCO STOP | TRIGGER | DECODER | NOIS REJECTION | STEREO SWITCH | STEREO SWITCH | CF301 | D306 ISS132

Q305 2SK246 POLARITY MONO SWITCH

Q306,307 2SC3622A MUTING

FM STEREO SEPARATION

CNP901 OUTPUT

Q601 2SC2458 CAL TONE SWITCH

Q602 BA1L4M CAL TONE SWITCH

Q303,304 BA1L4M STEREO/MUTE SWITCH

Q603 BA1L4M INVERTER SWITCH

D603,607,609,611 ISS132 | D605,606 ISS123 | D602,604 ISS132

IC601 TC9303AN-010 SYSTEM CONTROL

D620-622 ISS132 | D624-628 ISS132

S717 MEMORY | S704 4 | S708 8 | S713 TUNING MODE | S714 FM/MW/LW | S711 CAL TONE

S701 1 | S705 5 | S709 9 | S712 MUTING /MODE

S702 2 | S706 6 | S710 10 | S716 +

S703 3 | S707 7 | S718 SCAN | S715 −

IC701 TC9174P LED DRIVE | I/O CONTROL | LATCH | DRIVE | Q701,702 BA1L4M LED DRIVE | D711 SEL2810 | D701-710 SEL2810

D618 ISS132 | Q308 BA1L4M MUTING SWITCH | Q606 BN1L4M MUTING SWITCH | D619 ISS132

IC801 LA5666 VOLTAGE REGULATOR | VOL.REG. | CONTROL | VOL.REG.

D801-804 10E2 RECT | D805,806 10E2 RECT | D811 ISS132 | D810 HZ4ALL | D807 HZ30-2L | D808 EQA01-26 | D809 EQA01-10 | Q801 2SD774 VOL.REG.

T901 POWER TRANSFORMER

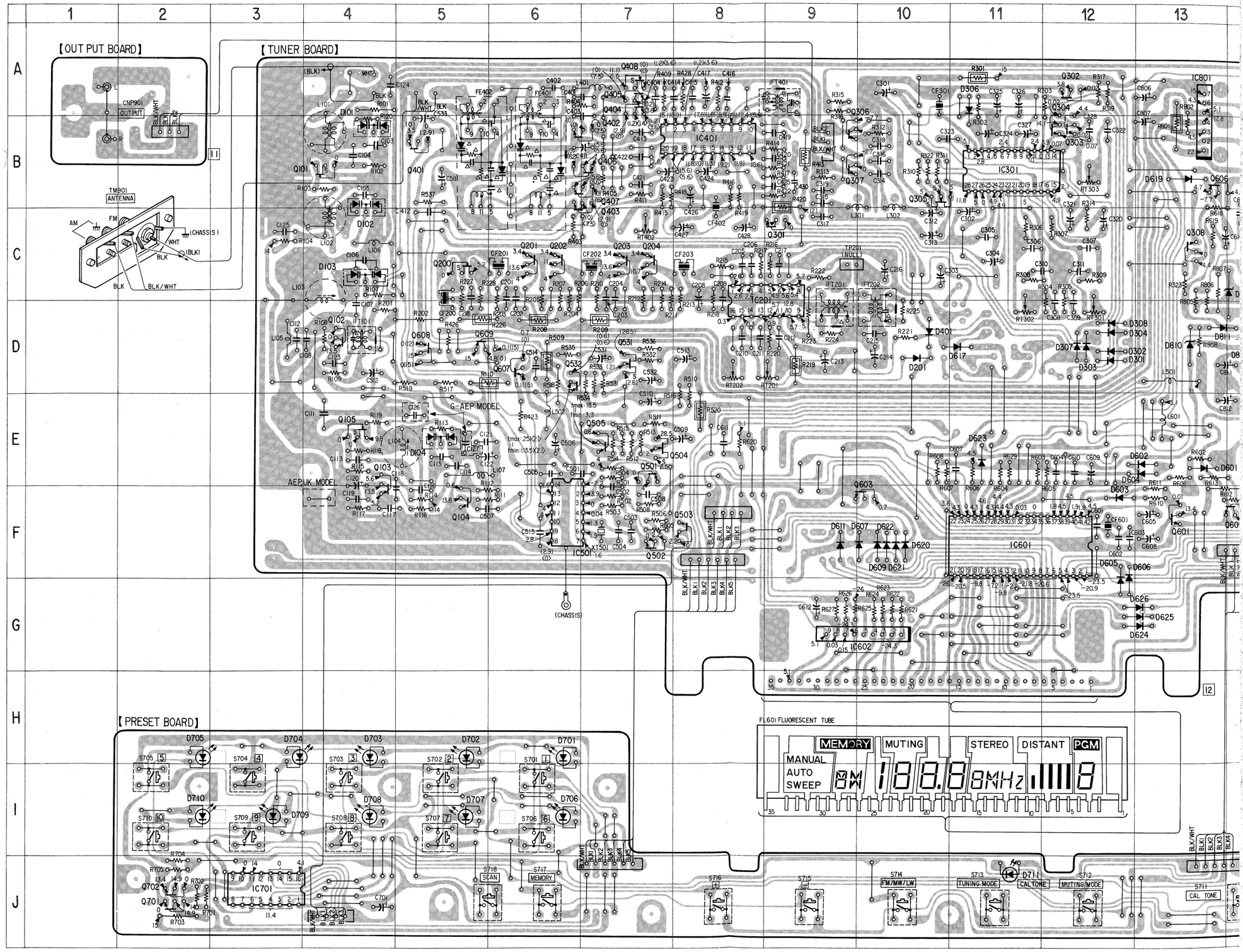
【AC SW BOARD】 S901 POWER | C901 0.01 400V | AC IN | G-AEP MODEL | C902 0.0022 400V | C903 0.0022 400V

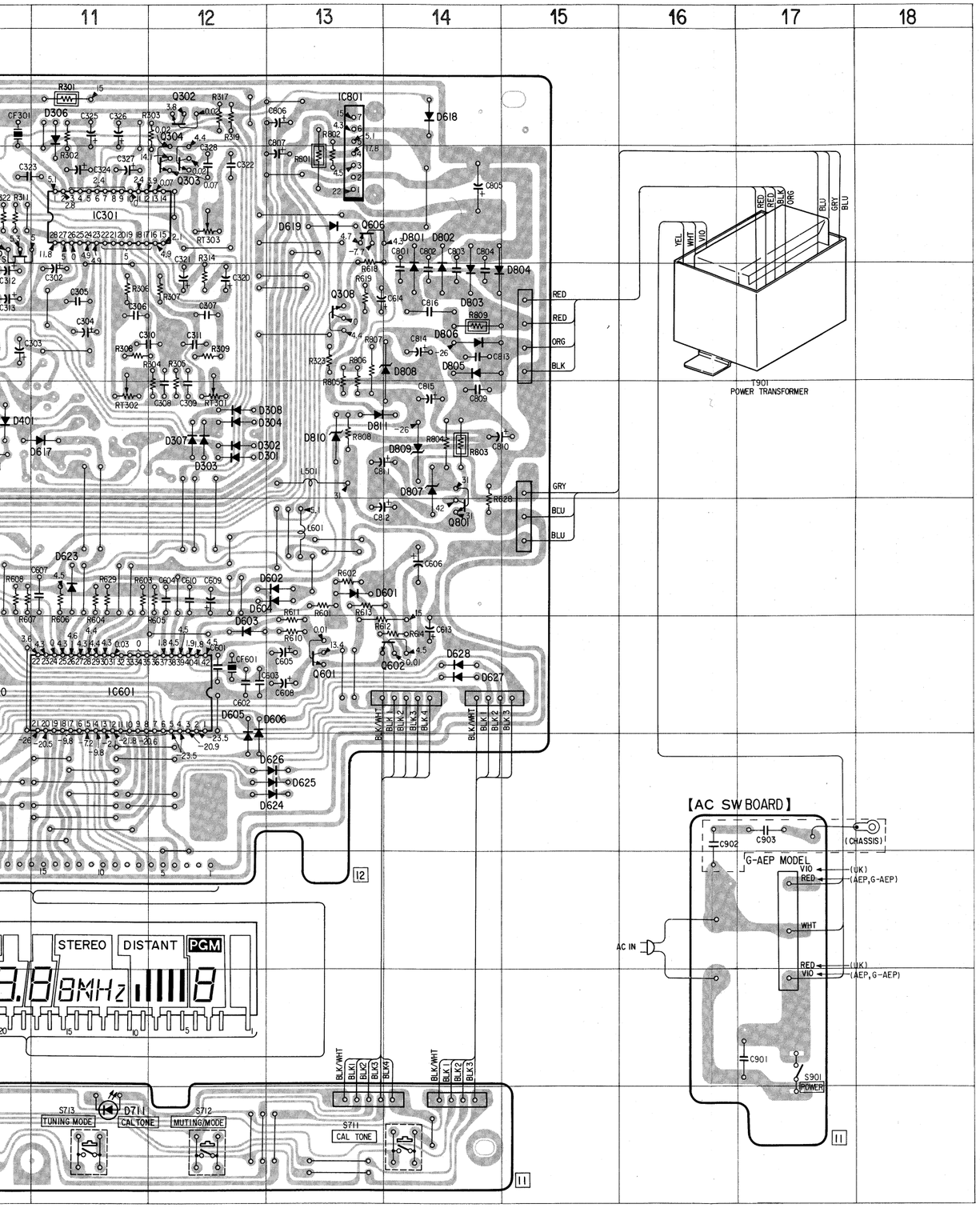
【PRESET BOARD】

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

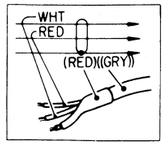
3-2. MOUNTING DIAGRAM

Refer to page 18 for Semiconductor Lead Layouts.





Color code of sleeving over the end of the jacket.



- ○— : parts extracted from the component side.
- [-]← : indicates side identified with part number.

● Semiconductor Location

Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D101	B-4	D802	C-14	Q501	E-7
D102	C-4	D803	C-14	Q502	F-7
D103	C-4	D804	C-15	Q503	F-8
D104	E-5	D805	C-14	Q504	E-7
D201	D-10	D806	C-14	Q505	E-7
D301	D-12	D807	D-14	Q531	D-7
D302	D-12	D808	C-14	Q532	D-6
D303	D-12	D809	D-14	Q601	F-601
D304	D-12	D810	D-13	Q602	F-14
D306	A-11	D811	D-13	Q603	E-10
D307	D-12			Q606	B-13
D308	D-12	IC201	D-8	Q607	D-6
D401	D-10	IC301	B-11	Q608	D-5
D601	E-13	IC401	B-8	Q609	D-5
D602	E-13	IC501	F-6	Q701	J-2
D603	F-12	IC601	F-11	Q702	J-2
D604	E-13	IC602	G-10	Q801	E-14
D605	G-12	IC701	J-3		
D606	G-12	IC801	A-13		
D607	F-10				
D609	F-10	Q101	B-4		
D611	F-9	Q102	D-4		
D617	D-11	Q103	E-4		
D618	A-14	Q104	F-5		
D619	B-13	Q105	E-4		
D620	F-10	Q200	C-5		
D621	F-10	Q201	C-6		
D622	F-10	Q202	C-6		
D623	E-11	Q203	C-7		
D624	G-13	Q204	C-7		
D625	G-13	Q301	C-9		
D626	G-13	Q302	A-12		
D627	F-14	Q303	B-12		
D628	F-14	Q304	B-12		
D701	H-6	Q305	B-10		
D702	H-5	Q306	B-9		
D703	H-4	Q307	B-9		
D704	H-3	Q308	C-13		
D705	H-2	Q401	B-5		
D706	I-6	Q402	B-7		
D707	I-5	Q403	B-7		
D708	I-4	Q404	A-7		
D709	I-3	Q405	A-7		
D710	I-2	Q406	B-7		
D711	J-11	Q407	B-7		
D801	C-14	Q408	A-7		

• Note on Schematic Diagram

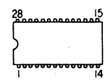
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▷ : signal path.
- △ : internal component.
- : nonflammable resistor.
- ▬▬ : B+ bus.
- ▬ ▬ ▬ : B− bus.
- ▭ : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal (detuned) conditions with a VOM (50 kΩ/V).
  no mark : FM
  ( ) : MW
  < > : LW
- Voltage variations may be noted due to normal production tolerances.

- Switch

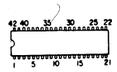
Ref. No.	Switch	Position
S701	1	OFF
S702	2	OFF
S703	3	OFF
S704	4	OFF
S705	5	OFF
S706	6	OFF
S707	7	OFF
S708	8	OFF
S709	9	OFF
S710	0	OFF
S711	CAL TONE	OFF
S712	MUTING/MODE	OFF
S713	TUNING MODE	OFF
S714	FM/MW/LW	OFF
S715	−	OFF
S716	+	OFF
S717	MEMORY	OFF
S718	SCAN	OFF
S901	POWER	OFF

• Semiconductor Lead Layouts

CXA1064S

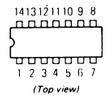


TC9303AN-010



2SK30A-GR33
2SK246-GR

CX7925B



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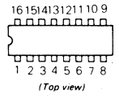
2SC2669
2SC2995-0
2SC3399

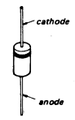
2SK161-GR
2SK241Y

LA1235
TC9174P

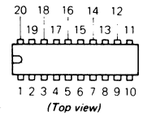


2SC535
2SC3622A-L

EQA01-26R
HZ4ALL
HZ30-2L
RD10E-B2
1SS132
10E2N

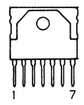


LA1245

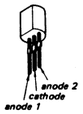


2SC3402

LA5666



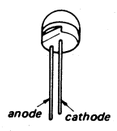
KV1320



2SD774

LB1493

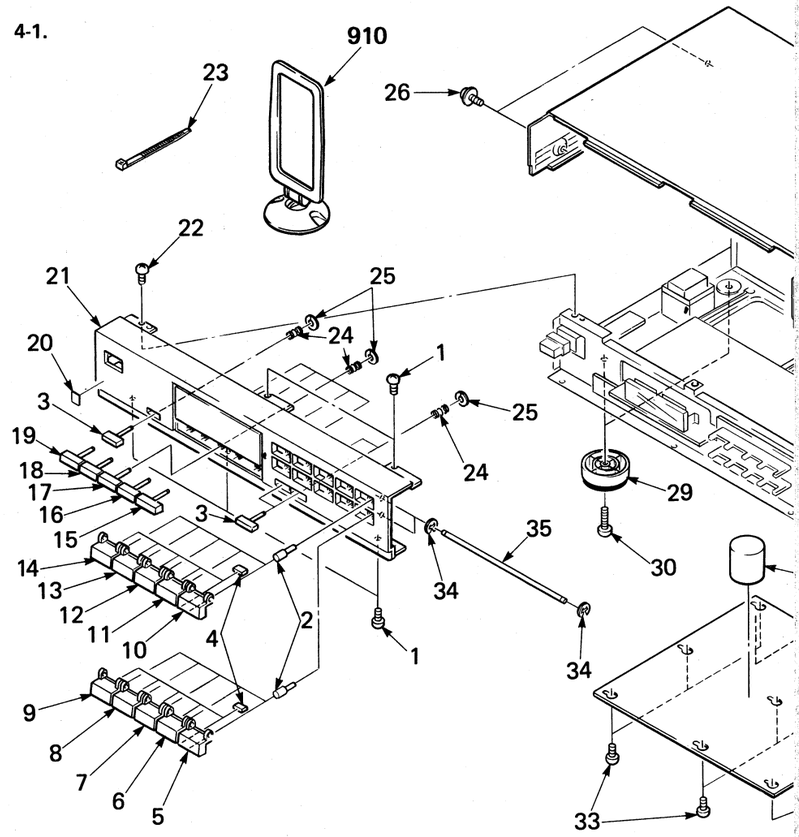
SEL2810A-C



SECTION 4
EXPLODED VIEWS AND PARTS LIST

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color Indication of Appearance Parts
  Example: (RED) ..... KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color

4-1.



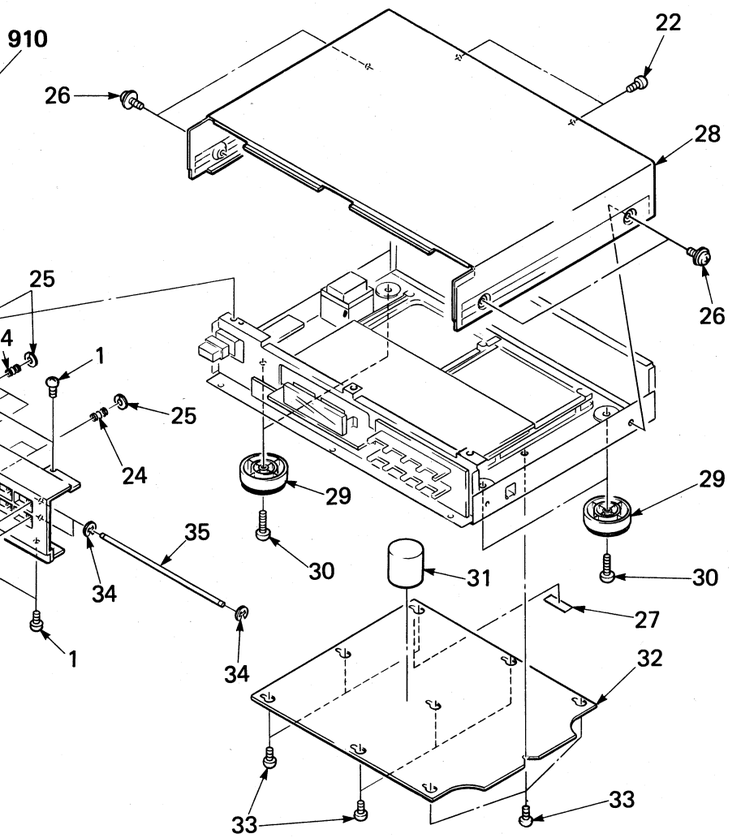
No.	Part No.	Description	Remarks
1	7-682-147-09	SCREW +BVTT 3X6 (S)	
2	*4-908-028-01	JOINT, KNOB	
3	4-908-027-01	BUTTON (C), SQUARE	
4	*4-908-050-01	CUSHION	
5	4-908-035-91	BUTTON, PRESET (10)	
6	4-908-035-81	BUTTON, PRESET (9)	
7	4-908-035-71	BUTTON, PRESET (8)	
8	4-908-035-61	BUTTON, PRESET (7)	
9	4-908-035-51	BUTTON, PRESET (6)	
10	4-908-035-41	BUTTON, PRESET (5)	
11	4-908-035-31	BUTTON, PRESET (4)	
12	4-908-035-21	BUTTON, PRESET (3)	
13	4-908-035-11	BUTTON, PRESET (2)	
14	4-908-035-01	BUTTON, PRESET (1)	
15	4-908-022-41	BUTTON (D), SQUARE (+)	
16	4-908-022-51	BUTTON (D), SQUARE (-)	
17	4-908-022-61	BUTTON (D), SQUARE (FM/MW/LW)	
18	4-908-022-21	BUTTON (D), SQUARE (TUNING/MODE)	

No.	Part No.	Descriptic
19	4-908-022-11	BUTTON (D)
20	3-703-710-41	STICKER, S
21	X-4911-306-1	PANEL ASSY
22	3-703-108-21	SCREW +BV
23	3-701-748-00	(UK)...CLA
24	4-915-427-01	SPRING, CC
25	4-862-338-00	RING, STOP
26	4-847-802-00	SCREW
27	3-703-081-21	(UK)...LAE
28	4-908-043-11	CASE
29	X-4911-304-1	LEG ASSY
30	7-685-883-01	SCREW +BVT
31	*4-908-853-01	CUSHION
32	*4-908-036-01	PLATE, BOT
33	7-682-147-01	SCREW +BVT
34	7-624-105-04	STOP RING
35	*4-908-029-01	SHAFT, JOI
910	1-501-349-11	ANTENNA, L

SECTION 4
DDED VIEWS AND PARTS LIST

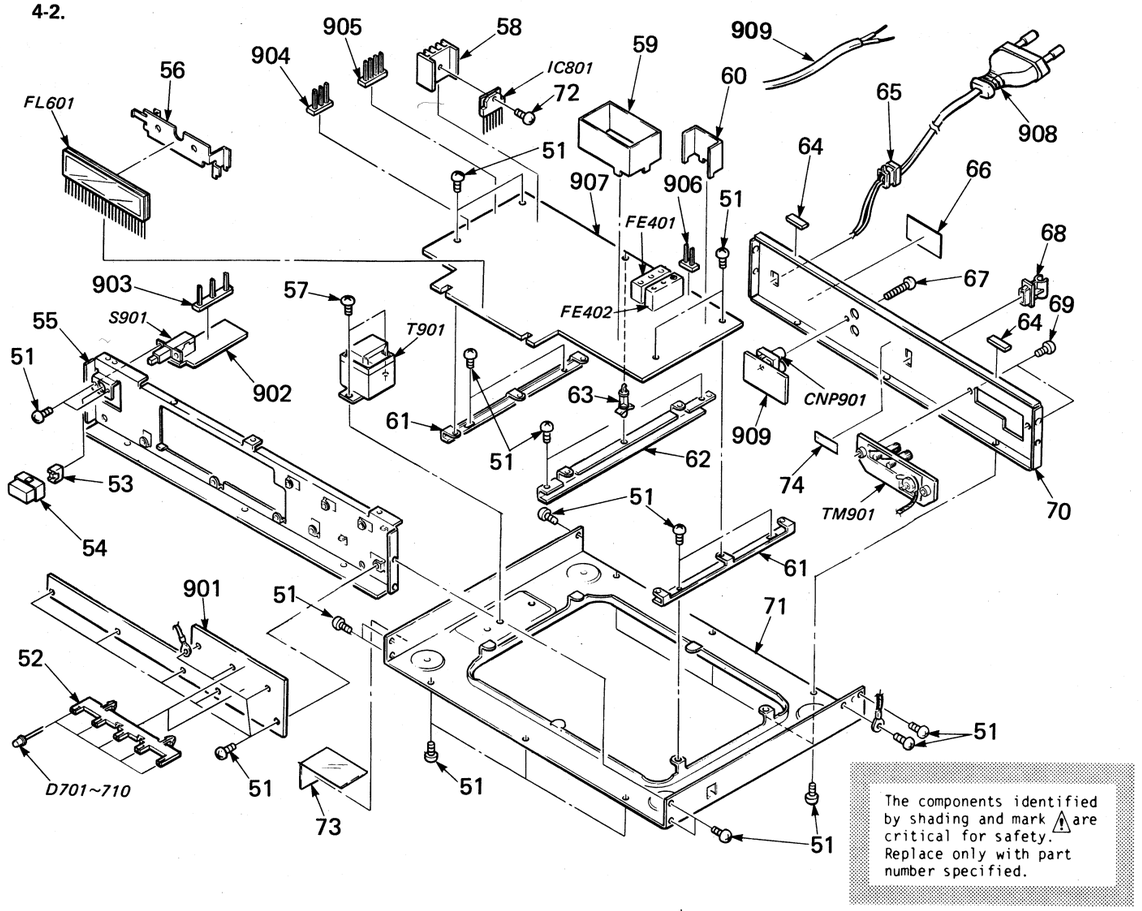
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color Indication of Appearance Parts
  Example: (RED) ..... KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts' Color

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.



Remarks	No.	Part No.	Description	Remarks
	19	4-908-022-11	BUTTON (D), SQUARE (MUTING/MODE)	
	20	3-703-710-41	STICKER, SONY SYMBOL (12)	
	21	X-4911-306-1	PANEL ASSY	
	22	3-703-108-21	SCREW +BV 3X6, S TIGHT	
	23	3-701-748-00	(UK)...CLAMP	
	24	4-915-427-01	SPRING, COMPRESSION	
	25	4-862-338-00	RING, STOPPER	
	26	4-847-802-00	SCREW	
	27	3-703-081-21	(UK)...LABEL (SIDE), SUB CAUTION	
	28	4-908-043-11	CASE	
	29	X-4911-304-1	LEG ASSY	
	30	7-685-883-01	SCREW +BVTT 4X12 (S)	
	31	*4-908-853-01	CUSHION	
	32	*4-908-036-01	PLATE, BOTTOM	
	33	7-682-147-01	SCREW +BVTT 3X6 (S)	
	34	7-624-105-04	STOP RING 2.3, TYPE -E	
/MW/LW)	35	*4-908-029-01	SHAFT, JOINT	
IING/MODE)	910	1-501-349-11	ANTENNA, LOOP	

4-2.



The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

No.	Part No.	Description	Remarks
51	7-682-147-01	SCREW +BVTT 3X6 (S)	
52	*4-908-030-01	HOLDER, LED	
53	*4-864-307-00	RING	
54	4-908-046-01	KNOB, SQUARE	
55	*4-911-348-01	CHASSIS, FRONT	
56	*4-907-637-01	HOLDER, FL TUBE	
57	7-682-160-01	SCREW +BVTT 4X6 (S)	
58	*4-363-146-11	HEAT SINK, V. OUT	
59	*4-911-326-01	PLATE (B), SHIELD	
60	*4-911-325-01	PLATE (A), SHIELD	
61	*4-911-346-01	BRACKET, PC BOARD	
62	*4-911-347-01	REINFORCEMENT	
63	*3-703-353-05	SUPPORT, PC BOARD	
64	2-242-510-00	PAD, (C)	
65	*3-703-244-00	BUSHING (2104), CORD	
66	*4-911-352-01	(UK).....LABEL, MODEL NUMBER	
	*4-911-354-01	(AEP).....LABEL, MODEL NUMBER	
	*4-911-355-01	(G-AEP)...LABEL, MODEL NUMBER	
67	3-703-473-00	(G-AEP)....SCREW, TERMINAL	
	7-685-651-19	(AEP,UK)...SCREW, +BVTP 3X20 TYPE2	
68	*4-908-019-01	HOLDER (A), ANTENNA	
69	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
70	*4-908-041-01	PLATE, JACK	

No.	Part No.	Description	Remarks
71	*4-908-042-01	CHASSIS, MAIN	
72	7-682-148-01	SCREW +BVTT 3X8 (S)	
73	*4-911-356-01	PLATE, PROTECTION	
74	3-701-030-00	LABEL, SERIAL NUMBER	
901	*1-620-859-11	PC BOARD, PRESET	
902	*1-620-861-11	PC BOARD, AC SW	
903	*1-535-140-11	BASE POST 19MM (10MM PITCH) 3P	
904	*1-535-116-00	TERMINAL	
905	*1-535-117-00	TERMINAL	
906	*1-535-115-00	TERMINAL	
907	*A-4351-593-A	(AEP,UK)...MOUNTED PCB, TUNER	
	*A-4351-594-A	(G-AEP)....MOUNTED PCB, TUNER	
908	⚠1-555-795-00	(AEP,G-AEP)...CORD, POWER	
909	⚠1-556-035-00	(UK).....CORD, POWER	
909	*1-620-860-11	PC BOARD, OUTPUT	
CNP901	1-507-912-11	JACK, PIN 2P	
FE401	1-235-942-11	ENCAPSULATED COMPONENT	
FE402	1-235-995-11	ENCAPSULATED COMPONENT	
FL601	1-519-299-21	INDICATOR TUBE, FLUORESCENT	
T901	⚠1-448-898-11	TRANSFORMER, POWER	
TM901	1-536-851-21	TERMINAL BOARD (ANT)	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC, UPD...: μPD...

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	*1-620-859-11	PC BOARD, PRESET			
902	*1-620-861-11	PC BOARD, AC SW			
903	*1-535-140-11	BASE POST 19MM (10MM PITCH) 3P			
904	*1-535-116-00	TERMINAL			
905	*1-535-117-00	TERMINAL			
906	*1-535-115-00	TERMINAL			
907	*A-4351-593-A	(AEP,UK)...MOUNTED PCB, TUNER			
	*A-4351-594-A	(G-AEP)....MOUNTED PCB, TUNER			
908	⚠1-555-795-00	(AEP,G-AEP)....CORD, POWER			
909	⚠1-556-035-00	(UK).....CORD, POWER			
909	*1-620-860-11	PC BOARD, OUTPUT			
910	1-501-349-11	ANTENNA, LOOP			
C103	1-162-198-31	CERAMIC	8.2PF	10%	50V
C104	1-162-195-31	CERAMIC	4.7PF	10%	50V
C105	1-162-196-31	CERAMIC	5.6PF	10%	50V
C106	1-162-196-31	CERAMIC	5.6PF	10%	50V
C107	1-162-196-31	CERAMIC	5.6PF	10%	50V
C108	1-162-203-31	CERAMIC	15PF	5%	50V
C111	1-162-190-31	CERAMIC	1.8PF	20%	50V
C112	1-162-282-31	CERAMIC	100PF	10%	50V
C113	1-162-189-31	CERAMIC	1.5PF	20%	50V
C114	1-162-187-31	CERAMIC	1PF	20%	50V
C115	1-162-196-31	CERAMIC	5.6PF	10%	50V
C116	1-162-198-31	CERAMIC	8.2PF	10%	50V
C117	1-162-203-31	CERAMIC	15PF	5%	50V
C118	1-162-211-31	CERAMIC	33PF	5%	50V
C119	1-161-379-00	CERAMIC	0.01MF	30%	16V
C120	1-123-356-00	ELECT	10MF	20%	50V
C121	1-161-379-00	CERAMIC	0.01MF	30%	16V
C122	1-123-359-00	ELECT	47MF	20%	35V
C123	1-161-379-00	CERAMIC	0.01MF	30%	16V
C124	1-101-005-00	CERAMIC	0.022MF		50V
C125	1-161-379-00	CERAMIC	0.01MF	30%	16V
C126	1-101-005-00	(G-AEP)...CERAMIC	0.022MF		50V
C127	1-101-005-00	(G-AEP)...CERAMIC	0.022MF		50V
C201	1-161-379-00	CERAMIC	0.01MF	30%	16V
C202	1-161-379-00	CERAMIC	0.01MF	30%	16V
C203	1-161-379-00	CERAMIC	0.01MF	30%	16V
C204	1-161-379-00	CERAMIC	0.01MF	30%	16V
C205	1-161-379-00	CERAMIC	0.01MF	30%	16V
C206	1-161-379-00	CERAMIC	0.01MF	30%	16V
C208	1-124-465-00	ELECT	0.47MF	20%	50V
C209	1-161-379-00	CERAMIC	0.01MF	30%	16V
C210	1-161-379-00	CERAMIC	0.01MF	30%	16V
C211	1-161-379-00	CERAMIC	0.01MF	30%	16V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C212	1-161-379-00	CERAMIC	0.01MF	30%	16V
C213	1-126-103-11	ELECT	470MF	20%	16V
C214	1-124-123-00	ELECT	100MF	20%	10V
C215	1-161-379-00	CERAMIC	0.01MF	30%	16V
C216	1-123-611-00	ELECT	1MF	20%	50V
C217	1-162-211-31	CERAMIC	33PF	5%	50V
C218	1-161-379-00	CERAMIC	0.01MF	30%	16V
C301	1-123-336-00	ELECT	470MF	20%	25V
C302	1-124-124-00	ELECT	220MF	20%	10V
C303	1-123-359-00	ELECT	47MF	20%	50V
C304	1-123-611-00	ELECT	1MF	20%	50V
C305	1-104-294-11	POLYSTYRENE	470PF	5%	50V
C306	1-104-293-11	POLYSTYRENE	430PF	5%	50V
C307	1-104-293-11	POLYSTYRENE	430PF	5%	50V
C308	1-162-219-31	CERAMIC	68PF	5%	50V
C309	1-162-219-31	CERAMIC	68PF	5%	50V
C310	1-130-475-00	MYLAR	0.0022MF	5%	50V
C311	1-130-475-00	MYLAR	0.0022MF	5%	50V
C312	1-123-382-00	ELECT	3.3MF	20%	50V
C313	1-123-382-00	ELECT	3.3MF	20%	50V
C314	1-130-476-00	MYLAR	0.0027MF	5%	50V
C315	1-130-476-00	MYLAR	0.0027MF	5%	50V
C316	1-130-475-00	MYLAR	0.0022MF	5%	50V
C317	1-130-475-00	MYLAR	0.0022MF	5%	50V
C318	1-130-476-00	MYLAR	0.0027MF	5%	50V
C319	1-130-476-00	MYLAR	0.0027MF	5%	50V
C320	1-124-465-00	ELECT	0.47MF	20%	50V
C321	1-124-464-11	ELECT	0.22MF	20%	50V
C322	1-136-153-00	FILM	0.01MF	5%	50V
C323	1-136-161-00	FILM	0.047MF	5%	50V
C324	1-124-465-00	ELECT	0.47MF	20%	50V
C325	1-123-611-00	ELECT	1MF	20%	50V
C326	1-123-611-00	ELECT	1MF	20%	50V
C327	1-123-611-00	ELECT	1MF	20%	50V
C328	1-136-153-00	FILM	0.01MF	5%	50V
C401	1-161-374-11	CERAMIC	0.0015MF	30%	16V
C402	1-161-374-11	CERAMIC	0.0015MF	30%	16V
C403	1-161-379-00	CERAMIC	0.01MF	30%	16V
C404	1-161-379-00	CERAMIC	0.01MF	30%	16V
C411	1-123-611-00	ELECT	1MF	20%	50V
C412	1-161-379-00	CERAMIC	0.01MF	30%	16V
C413	1-161-379-00	CERAMIC	0.01MF	30%	16V
C414	1-161-379-00	CERAMIC	0.01MF	30%	16V
C415	1-161-379-00	CERAMIC	0.01MF	30%	16V
C416	1-161-379-00	CERAMIC	0.01MF	30%	16V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C417	1-123-359-00	ELECT	47MF	20%	35V
C419	1-161-379-00	CERAMIC	0.01MF	30%	16V
C420	1-162-294-31	CERAMIC	0.001MF	10%	50V
C421	1-162-207-31	CERAMIC	22PF	5%	50V
C422	1-161-379-00	CERAMIC	0.01MF	30%	16V
C423	1-124-259-00	ELECT	4.7MF	20%	50V
C424	1-123-611-00	ELECT	1MF	20%	50V
C425	1-161-379-00	CERAMIC	0.01MF	30%	16V
C426	1-123-611-00	ELECT	1MF	20%	50V
C427	1-123-382-00	ELECT	3.3MF	20%	50V
C428	1-123-359-00	ELECT	47MF	20%	35V
C430	1-136-159-00	FILM	0.033MF	5%	50V
C501	1-161-379-00	CERAMIC	0.01MF	30%	16V
C502	1-162-282-31	CERAMIC	100PF	10%	50V
C503	1-102-959-00	CERAMIC	22PF	5%	50V
C504	1-102-959-00	CERAMIC	22PF	5%	50V
C505	1-161-379-00	CERAMIC	0.01MF	30%	16V
C506	1-123-356-00	ELECT	10MF	20%	50V
C507	1-162-294-31	CERAMIC	0.001MF	10%	50V
C508	1-162-215-31	CERAMIC	47PF	5%	50V
C509	1-123-382-00	ELECT	3.3MF	20%	50V
C510	1-123-356-00	ELECT	10MF	20%	50V
C511	1-124-463-00	ELECT	0.1MF	20%	50V
C512	1-124-254-00	ELECT	0.68MF	20%	50V
C513	1-123-345-00	ELECT	100MF	20%	35V
C514	1-161-379-00	CERAMIC	0.01MF	30%	16V
C515	1-161-379-00	CERAMIC	0.01MF	30%	16V
C531	1-124-252-00	ELECT	0.33MF	20%	50V
C532	1-123-356-00	ELECT	10MF	20%	50V
C533	1-124-465-00	ELECT	0.47MF	20%	50V
C601	1-161-379-00	CERAMIC	0.01MF	30%	16V
C602	1-162-211-31	CERAMIC	33PF	5%	50V
C603	1-162-211-31	CERAMIC	33PF	5%	50V
C604	1-161-379-00	CERAMIC	0.01MF	30%	16V
C605	1-131-383-00	TANTALUM	10MF	10%	6.3V
C606	1-124-958-11	ELECT	39000MF		5.5V
C607	1-161-379-00	CERAMIC	0.01MF	30%	16V
C608	1-123-356-00	ELECT	10MF	20%	50V
C609	1-123-359-00	ELECT	47MF	20%	35V
C610	1-161-379-00	CERAMIC	0.01MF	30%	16V
C611	1-161-379-00	CERAMIC	0.01MF	30%	16V
C612	1-123-357-00	ELECT	22MF	20%	35V
C613	1-123-357-00	ELECT	22MF	20%	35V
C614	1-123-356-00	ELECT	10MF	20%	50V
C701	1-123-357-00	ELECT	22MF	20%	35V
C801	1-101-004-00	CERAMIC	0.01MF		50V
C802	1-101-004-00	CERAMIC	0.01MF		50V
C803	1-101-004-00	CERAMIC	0.01MF		50V
C804	1-101-004-00	CERAMIC	0.01MF		50V
C805	1-125-458-11	ELECT(BLOCK)	1000MF	20%	25V
C806	1-123-356-00	ELECT	10MF	20%	50V
C807	1-123-356-00	ELECT	10MF	20%	50V
C809	1-101-004-00	CERAMIC	0.01MF		50V
C810	1-123-362-00	ELECT	330MF	20%	50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C811	1-123-345-00	ELECT	100MF	20%	35V
C812	1-123-359-00	ELECT	47MF	20%	35V
C813	1-101-004-00	CERAMIC	0.01MF		50V
C814	1-123-360-00	ELECT	100MF	20%	50V
C815	1-123-359-00	ELECT	47MF	20%	35V
C816	1-130-789-00	FILM	1MF	5%	100V
C901	⚠1-161-744-00	CERAMIC	0.01MF		400V
C902	⚠1-161-742-00	(G-AEP)...CERAMIC	0.0022MF	20%	400V
C903	⚠1-161-742-00	(G-AEP)...CERAMIC	0.0022MF	20%	400V
CF200	*1-527-836-00	FILTER, CERAMIC			
CF201	*1-527-836-00	FILTER, CERAMIC			
CF202	*1-527-836-00	FILTER, CERAMIC			
CF203	*1-527-836-00	FILTER, CERAMIC			
CF301	1-567-250-11	OSCILLATOR, CERAMIC			
CF402	1-527-981-00	FILTER, CERAMIC			
CF601	1-567-294-11	OSCILLATOR, CERAMIC			
CNP901	1-507-912-11	JACK, PIN 2P			
D101	8-719-901-59	DIODE KV1320			
D102	8-719-901-59	DIODE KV1320			
D103	8-719-901-59	DIODE KV1320			
D104	8-719-901-59	DIODE KV1320			
D201	8-719-940-76	DIODE 1SS132			
D301	8-719-940-76	DIODE 1SS132			
D302	8-719-940-76	DIODE 1SS132			
D303	8-719-940-76	DIODE 1SS132			
D304	8-719-940-76	DIODE 1SS132			
D306	8-719-940-76	DIODE 1SS132			
D307	8-719-940-76	DIODE 1SS132			
D308	8-719-940-76	DIODE 1SS132			
D401	8-719-940-76	DIODE 1SS132			
D601	8-719-940-76	DIODE 1SS132			
D602	8-719-940-76	DIODE 1SS132			
D603	8-719-940-76	DIODE 1SS132			
D604	8-719-940-76	DIODE 1SS132			
D605	8-719-940-76	DIODE 1SS132			
D606	8-719-940-76	DIODE 1SS132			
D607	8-719-940-76	DIODE 1SS132			
D609	8-719-940-76	DIODE 1SS132			
D611	8-719-940-76	DIODE 1SS132			
D617	8-719-940-76	DIODE 1SS132			
D618	8-719-940-76	DIODE 1SS132			
D619	8-719-940-76	DIODE 1SS132			
D620	8-719-940-76	DIODE 1SS132			
D621	8-719-940-76	DIODE 1SS132			
D622	8-719-940-76	DIODE 1SS132			
D623	8-719-940-76	DIODE 1SS132			
D624	8-719-940-76	DIODE 1SS132			
D625	8-719-940-76	DIODE 1SS132			
D626	8-719-940-76	DIODE 1SS132			
D627	8-719-940-76	DIODE 1SS132			
D628	8-719-940-76	DIODE 1SS132			
D701	8-719-301-52	DIODE SEL2810A-C			
D702	8-719-301-52	DIODE SEL2810A-C			
D703	8-719-301-52	DIODE SEL2810A-C			
D704	8-719-301-52	DIODE SEL2810A-C			
D705	8-719-301-52	DIODE SEL2810A-C			
D706	8-719-301-52	DIODE SEL2810A-C			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D707	8-719-301-52	DIODE SEL2810A-C
D708	8-719-301-52	DIODE SEL2810A-C
D709	8-719-301-52	DIODE SEL2810A-C
D710	8-719-301-52	DIODE SEL2810A-C
D711	8-719-301-52	DIODE SEL2810A-C
D801	8-719-200-77	DIODE 10E2N
D802	8-719-200-77	DIODE 10E2N
D803	8-719-200-77	DIODE 10E2N
D804	8-719-200-77	DIODE 10E2N
D805	8-719-200-77	DIODE 10E2N
D806	8-719-200-77	DIODE 10E2N
D807	8-719-913-02	DIODE HZ30-2L
D808	8-719-936-26	DIODE EQA01-26R
D809	8-719-100-57	DIODE RD10E-B2
D810	8-719-914-11	DIODE HZ4ALL
D811	8-719-940-76	DIODE 1SS132
FE401	1-235-942-11	ENCAPSULATED COMPONENT
FE402	1-235-995-11	ENCAPSULATED COMPONENT
FL601	1-519-299-21	INDICATOR TUBE, FLUORESCENT
IC201	8-759-812-35	IC LA1235
IC301	8-759-802-57	IC CXA1064S
IC401	8-759-812-45	IC LA1245
IC501	8-759-925-20	IC CX7925B
IC601	8-759-207-42	IC TC9303AN-010
IC602	8-759-800-95	IC LB1493
IC701	8-759-202-07	IC TC9174P
IC801	8-759-802-61	IC LA5666
IFT101	1-404-666-11	COIL, FM IFT
IFT201	1-404-339-00	TRANSFORMER, DISCRIMINATOR
IFT202	1-404-338-00	TRANSFORMER,DISCRIMINATOR (FM)
IFT401	1-404-713-11	TRANSFORMER, IF
L101	1-402-240-11	COIL (ANT)
L102	1-426-249-11	COIL (RF)
L103	1-459-647-11	COIL (WITH CORE)
L104	1-459-618-11	COIL
L105	1-408-555-00	MICRO INDUCTOR 2.2UH
L106	1-408-562-00	MICRO INDUCTOR 8.2UH
L107	1-408-575-00	MICRO INDUCTOR 100UH
L301	1-408-929-00	MICRO INDUCTOR 27MMH
L302	1-408-929-00	MICRO INDUCTOR 27MMH
L401	1-408-579-00	MICRO INDUCTOR 220UH
L501	1-408-575-00	MICRO INDUCTOR 100UH
L502	1-408-575-00	MICRO INDUCTOR 100UH
L601	1-408-575-00	MICRO INDUCTOR 100UH
Q101	8-729-200-55	TRANSISTOR 2SK241Y
Q102	8-729-353-52	TRANSISTOR 2SC535
Q103	8-729-201-93	TRANSISTOR 2SC2995-O
Q104	8-729-201-93	TRANSISTOR 2SC2995-O
Q105	8-729-261-13	TRANSISTOR 2SK161-GR
Q200	8-729-261-13	TRANSISTOR 2SK161-GR
Q201	8-729-266-93	TRANSISTOR 2SC2669
Q202	8-729-266-93	TRANSISTOR 2SC2669
Q203	8-729-266-93	TRANSISTOR 2SC2669

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
Q204	8-729-266-93	TRANSISTOR 2SC2669			
Q301	8-729-806-38	TRANSISTOR 2SC3399			
Q302	8-729-806-38	TRANSISTOR 2SC3399			
Q303	8-729-806-38	TRANSISTOR 2SC3399			
Q304	8-729-806-38	TRANSISTOR 2SC3399			
Q305	8-729-224-62	TRANSISTOR 2SK246-GR			
Q306	8-729-107-98	TRANSISTOR 2SC3622A-L			
Q307	8-729-107-98	TRANSISTOR 2SC3622A-L			
Q308	8-729-806-38	TRANSISTOR 2SC3399			
Q401	8-729-806-38	TRANSISTOR 2SC3399			
Q402	8-729-806-38	TRANSISTOR 2SC3399			
Q403	8-729-806-38	TRANSISTOR 2SC3399			
Q404	8-729-806-38	TRANSISTOR 2SC3399			
Q405	8-729-806-38	TRANSISTOR 2SC3399			
Q406	8-729-107-98	TRANSISTOR 2SC3622A-L			
Q407	8-729-806-20	TRANSISTOR 2SA1345			
Q408	8-729-261-13	TRANSISTOR 2SK161-GR			
Q501	8-729-600-27	TRANSISTOR 2SC634SP			
Q502	8-729-806-28	TRANSISTOR 2SC3402			
Q503	8-729-806-28	TRANSISTOR 2SC3402			
Q504	8-729-203-05	TRANSISTOR 2SK30A-GR33			
Q505	8-729-600-27	TRANSISTOR 2SC634SP			
Q531	8-729-203-05	TRANSISTOR 2SK30A-GR33			
Q532	8-729-600-27	TRANSISTOR 2SC634SP			
Q601	8-729-600-27	TRANSISTOR 2SC634SP			
Q602	8-729-806-38	TRANSISTOR 2SC3399			
Q603	8-729-806-38	TRANSISTOR 2SC3399			
Q606	8-729-806-20	TRANSISTOR 2SA1345			
Q607	8-729-600-27	TRANSISTOR 2SC634SP			
Q608	8-729-600-27	TRANSISTOR 2SC634SP			
Q609	8-729-806-20	TRANSISTOR 2SA1345			
Q701	8-729-806-38	TRANSISTOR 2SC3399			
Q702	8-729-806-38	TRANSISTOR 2SC3399			
Q801	8-729-177-43	TRANSISTOR 2SD774			
R101	1-249-437-11	CARBON	47K	5%	1/6W
R102	1-249-437-11	CARBON	47K	5%	1/6W
R103	1-249-401-11	CARBON	47	5%	1/6W
R104	1-249-411-11	CARBON	330	5%	1/6W
R107	1-249-437-11	CARBON	47K	5%	1/6W
R108	1-215-493-00	CARBON	1M	5%	1/6W
R109	1-249-405-11	CARBON	100	5%	1/6W
R110	⚠1-247-700-11	CARBON	100	5%	1/4W F
R111	1-249-405-11	CARBON	100	5%	1/6W
R112	1-215-483-00	CARBON	390K	5%	1/6W
R113	1-249-429-11	CARBON	10K	5%	1/6W
R114	1-249-429-11	CARBON	10K	5%	1/6W
R115	1-249-428-11	CARBON	8.2K	5%	1/6W
R116	1-249-405-11	CARBON	100	5%	1/6W
R117	1-249-421-11	CARBON	2.2K	5%	1/6W
R118	1-249-437-11	CARBON	47K	5%	1/6W
R119	1-249-414-11	CARBON	560	5%	1/6W
R120	1-249-437-11	CARBON	47K	5%	1/6W
R201	1-249-409-11	CARBON	220	5%	1/6W
R202	1-249-407-11	CARBON	150	5%	1/6W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R203	1-249-411-11	CARBON	330	5%	1/6W
R204	1-249-431-11	CARBON	15K	5%	1/6W
R205	1-249-410-11	CARBON	270	5%	1/6W
R206	1-249-411-11	CARBON	330	5%	1/6W
R207	1-249-434-11	CARBON	27K	5%	1/6W
R208 ⚠	1-247-700-11	CARBON	100	5%	1/4W F
R209 ⚠	1-247-700-11	CARBON	100	5%	1/4W F
R210	1-249-411-11	CARBON	330	5%	1/6W
R211	1-249-431-11	CARBON	15K	5%	1/6W
R212	1-249-410-11	CARBON	270	5%	1/6W
R213	1-249-411-11	CARBON	330	5%	1/6W
R214	1-249-434-11	CARBON	27K	5%	1/6W
R215	1-249-411-11	CARBON	330	5%	1/6W
R216	1-249-441-11	CARBON	100K	5%	1/6W
R217	1-249-432-11	CARBON	18K	5%	1/6W
R218	1-249-438-11	CARBON	56K	5%	1/6W
R219 ⚠	1-247-701-11	CARBON	120	5%	1/4W F
R220	1-249-437-11	CARBON	47K	5%	1/6W
R221	1-249-441-11	CARBON	100K	5%	1/6W
R222	1-249-421-11	CARBON	2.2K	5%	1/6W
R223	1-249-431-11	CARBON	15K	5%	1/6W
R224	1-249-430-11	CARBON	12K	5%	1/6W
R225	1-249-421-11	CARBON	2.2K	5%	1/6W
R226 ⚠	1-247-700-11	CARBON	100	5%	1/4W F
R227	1-249-411-11	CARBON	330	5%	1/6W
R228	1-249-411-11	CARBON	330	5%	1/6W
R301 ⚠	1-247-700-11	CARBON	100	5%	1/4W F
R302	1-215-438-00	CARBON	5.1K	5%	1/6W
R303	1-249-431-11	CARBON	15K	5%	1/6W
R304	1-249-441-11	CARBON	100K	5%	1/6W
R305	1-249-441-11	CARBON	100K	5%	1/6W
R306	1-249-441-11	CARBON	100K	5%	1/6W
R307	1-249-441-11	CARBON	100K	5%	1/6W
R308	1-249-399-11	CARBON	33	5%	1/6W
R309	1-249-399-11	CARBON	33	5%	1/6W
R310	1-249-423-11	CARBON	3.3K	5%	1/6W
R311	1-249-423-11	CARBON	3.3K	5%	1/6W
R312	1-249-433-11	CARBON	22K	5%	1/6W
R313	1-249-433-11	CARBON	22K	5%	1/6W
R314	1-249-434-11	CARBON	27K	5%	1/6W
R315	1-249-417-11	CARBON	1K	5%	1/6W
R316	1-249-417-11	CARBON	1K	5%	1/6W
R317	1-249-437-11	CARBON	47K	5%	1/6W
R319	1-249-437-11	CARBON	47K	5%	1/6W
R322	1-215-493-00	CARBON	1M	5%	1/6W
R323	1-249-433-11	CARBON	22K	5%	1/6W
R403	1-249-429-11	CARBON	10K	5%	1/6W
R404	1-215-493-00	CARBON	1M	5%	1/6W
R405	1-249-433-11	CARBON	22K	5%	1/6W
R409	1-249-441-11	CARBON	100K	5%	1/6W
R411	1-249-429-11	CARBON	10K	5%	1/6W
R412	1-249-421-11	CARBON	2.2K	5%	1/6W
R413 ⚠	1-247-704-11	CARBON	220	5%	1/4W F

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R414	1-249-413-11	CARBON	470	5%	1/6W
R415	1-249-424-11	CARBON	3.9K	5%	1/6W
R416	1-249-404-00	CARBON	82	5%	1/6W
R417	1-249-409-11	CARBON	220	5%	1/6W
R418	1-249-429-11	CARBON	10K	5%	1/6W
R419	1-249-429-11	CARBON	10K	5%	1/6W
R420 ⚠	1-247-702-11	CARBON	150	5%	1/4W F
R421	1-249-430-11	CARBON	12K	5%	1/6W
R422	1-249-429-11	CARBON	10K	5%	1/6W
R423	1-249-429-11	CARBON	10K	5%	1/6W
R426	1-249-417-11	CARBON	1K	5%	1/6W
R428	1-249-417-11	CARBON	1K	5%	1/6W
R501	1-249-429-11	CARBON	10K	5%	1/6W
R502	1-249-429-11	CARBON	10K	5%	1/6W
R503	1-249-429-11	CARBON	10K	5%	1/6W
R504	1-249-425-11	CARBON	4.7K	5%	1/6W
R505	1-249-421-11	CARBON	2.2K	5%	1/6W
R506	1-249-429-11	CARBON	10K	5%	1/6W
R508	1-249-437-11	CARBON	47K	5%	1/6W
R509 ⚠	1-247-695-11	CARBON	39	5%	1/4W F
R510	1-249-414-11	CARBON	560	5%	1/6W
R511	1-249-420-11	CARBON	1.8K	5%	1/6W
R512	1-249-414-11	CARBON	560	5%	1/6W
R513	1-249-418-11	CARBON	1.2K	5%	1/6W
R514	1-249-411-11	CARBON	330	5%	1/6W
R515	1-249-419-11	CARBON	1.5K	5%	1/6W
R516	1-249-427-11	CARBON	6.8K	5%	1/6W
R517	1-249-425-11	CARBON	4.7K	5%	1/6W
R518	1-249-425-11	CARBON	4.7K	5%	1/6W
R519	1-249-415-11	CARBON	680	5%	1/6W
R520 ⚠	1-247-703-11	CARBON	180	5%	1/4W F
R531	1-249-429-11	CARBON	10K	5%	1/6W
R532	1-249-414-11	CARBON	560	5%	1/6W
R533	1-249-418-11	CARBON	1.2K	5%	1/6W
R534	1-249-411-11	CARBON	330	5%	1/6W
R535	1-247-883-11	CARBON	150K	5%	1/6W
R536	1-249-427-11	CARBON	6.8K	5%	1/6W
R537	1-249-425-11	CARBON	4.7K	5%	1/6W
R601	1-249-401-11	CARBON	47	5%	1/6W
R602	1-249-417-11	CARBON	1K	5%	1/6W
R603	1-249-437-11	CARBON	47K	5%	1/6W
R604	1-249-437-11	CARBON	47K	5%	1/6W
R605	1-249-437-11	CARBON	47K	5%	1/6W
R606	1-249-437-11	CARBON	47K	5%	1/6W
R607	1-249-437-11	CARBON	47K	5%	1/6W
R608	1-249-433-11	CARBON	22K	5%	1/6W
R610	1-249-405-11	CARBON	100	5%	1/6W
R611	1-249-437-11	CARBON	47K	5%	1/6W
R612	1-247-713-11	CARBON	1K	5%	1/4W
R613	1-249-441-11	CARBON	100K	5%	1/6W
R614	1-249-429-11	CARBON	10K	5%	1/6W
R618	1-249-433-11	CARBON	22K	5%	1/6W
R619	1-249-405-11	CARBON	100	5%	1/6W
R620	1-249-421-11	CARBON	2.2K	5%	1/6W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R621	1-249-441-11	CARBON	100K	5%	1/6W
R622	1-249-441-11	CARBON	100K	5%	1/6W
R623	1-249-441-11	CARBON	100K	5%	1/6W
R624	1-249-441-11	CARBON	100K	5%	1/6W
R625	1-249-441-11	CARBON	100K	5%	1/6W
R626	1-249-441-11	CARBON	100K	5%	1/6W
R627	1-249-429-11	CARBON	10K	5%	1/6W
R628	1-247-849-00	CARBON	5.6K	5%	1/6W
R629	1-249-437-11	CARBON	47K	5%	1/6W
R701	1-249-437-11	CARBON	47K	5%	1/6W
R702	1-249-437-11	CARBON	47K	5%	1/6W
R703	1-247-713-11	CARBON	1K	5%	1/4W
R704	1-249-441-11	CARBON	100K	5%	1/6W
R705	1-249-441-11	CARBON	100K	5%	1/6W
R801	⚠1-247-739-11	CARBON	100	5%	1/2W F
R802	1-249-437-11	CARBON	47K	5%	1/6W
R803	⚠1-247-704-11	CARBON	220	5%	1/4W F
R804	1-249-424-11	CARBON	3.9K	5%	1/6W
R805	1-249-433-11	CARBON	22K	5%	1/6W
R806	1-249-437-11	CARBON	47K	5%	1/6W
R807	1-249-416-11	CARBON	820	5%	1/6W
R808	1-249-429-11	CARBON	10K	5%	1/6W
R809	⚠1-247-692-11	CARBON	22	5%	1/4W F
RT201	1-237-461-21	RES, ADJ, CARBON 50K			
RT202	1-237-459-21	RES, ADJ, CARBON 10K			
RT301	1-237-463-21	RES, ADJ, CARBON 200K			
RT302	1-237-463-21	RES, ADJ, CARBON 200K			
RT303	1-237-460-21	RES, ADJ, CARBON 20K			
RT402	1-237-462-21	RES, ADJ, CARBON 100K			
S701	1-554-303-21	SWITCH, KEY BOARD (1)			
S702	1-554-303-21	SWITCH, KEY BOARD (2)			
S703	1-554-303-21	SWITCH, KEY BOARD (3)			
S704	1-554-303-21	SWITCH, KEY BOARD (4)			
S705	1-554-303-21	SWITCH, KEY BOARD (5)			
S706	1-554-303-21	SWITCH, KEY BOARD (6)			
S707	1-554-303-21	SWITCH, KEY BOARD (7)			
S708	1-554-303-21	SWITCH, KEY BOARD (8)			
S709	1-554-303-21	SWITCH, KEY BOARD (9)			
S710	1-554-303-21	SWITCH, KEY BOARD (0)			
S711	1-554-303-21	SWITCH, KEY BOARD (CAL TONE)			
S712	1-553-856-00	SWITCH, KEY BOARD (MUTING MODE)			
S713	1-553-856-00	SWITCH, KEY BOARD (TUNING/MODE)			
S714	1-553-856-00	SWITCH, KEY BOARD (FM/MW/LW)			
S715	1-553-856-00	SWITCH, KEY BOARD (-)			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S716	1-553-856-00	SWITCH, KEY BOARD (+)
S717	1-554-303-21	SWITCH, KEY BOARD (MEMORY)
S718	1-554-303-21	SWITCH, KEY BOARD (SCAN)
S901	⚠1-553-318-00	SWITCH, PUSH (AC POWER)(1 KEY)
T901	⚠1-448-898-11	TRANSFORMER, POWER
TM901	1-530-851-21	TERMINAL BOARD (ANT)
TP201	*1-560-060-00	PIN, CONNECTOR 2P
XT501	1-567-826-11	VIBRATOR, CRYSTAL

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-417-090-00	TRANSFORMER, ANTENNA MATCHING
1-501-351-21	ANTENNA, FEEDER
1-558-787-11	CORD, CONNECTION
3-701-630-00	BAG, POLYETHYLENE
3-765-731-11	MANUAL, INSTRUCTION
4-858-078-00	SHEET, PROTECTION
4-908-060-61	INDIVIDUAL CARTON
4-915-426-01	CUSHION

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TROUBLE CHECKS

The following checks will assist in the correction of most problems which you may encounter with your unit.
Should any problem persist after you have made these checks, consult your nearest Sony service facility.
Before going through the check list below, first refer back to the connection and operating procedures.

ON OPERATION	
No audio output	• Check the connections to the amplifier. • Check the setting of the amplifier input selector, volume control and power switch. • Check the antenna connection.
Tuning cannot be done correctly when the station preset button is pressed.	• Memorize the frequency correctly.
The tuning buttons do not operate.	• Keep the speaker cords, connecting cords and power cords away from the AM loop antenna (or antenna lead-in) at the rear. • Keep the connecting cords away from transformers or motors, and at least 3 m (10 ft) from TV units and fluorescent lights.
Ignition noise	• Install the outdoor antenna away from heavy trafic. • Use a shielded or coaxial lead-in for the antenna.
Electrostatic charge	• Ground the tuner.

ON DISPLAY	
Signal indicator reading is unstable.	• Tune in the station accurately. • Adjust the antenna.
STEREO indicator flickers.	• Tune in the station accurately. • When the signal is weak, adjust the antenna or connected an external FM antenna. • Press the MUTING/MODE button so that the MUTING indicator lights. • Adjust the antenna.
Severe hum or noise	• Ground the tuner. • Avoid long horizontal runs of antenna lead. • Adjust the antenna.

Sony Corporation
Audio Group

English
87D0457-1
Printed in Japan
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9-952-717-11